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Acceptability to General Practitioners of National Health Insurance and Capitation as a Reimbursement Mechanism

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1. ABSTRACT

Objective: The objectives of the study were to determine General Practitioners' attitudes to National Health Insurance (NHI) and to capitation as a mechanism of reimbursement. The study also aimed to explore determinants of these attitudes.

Design: The methodology utilised a cross-sectional survey using telephone interviews and four focus group discussions.

Setting: The study area was the Cape Peninsula area in the Western Cape Province of South Africa.

Participants: 174 general practitioners (GPs) were randomly sampled from a total population of 874 GPs in the Cape Peninsula area.

Main outcome measures: The main outcome measures were GPs' acceptance of NHI and of capitation as a method of reimbursement.

Main results: Sixty three percent of GPs (63,3%) approved of NHI. More than 81% approved of NHI if GPs were to maintain their independent status, for example their own premises and working hours. Eighty two percent (82,3%) said NHI would be a more equitable system of health care than the system that existed at that time, 88% approved of the fact that NHI would make care by GPs more accessible and 73% said they had the capacity to treat more patients. However, 61,3% of GPs disapproved of capitation as a form of reimbursement. The most common conditions cited by GPs for support of NHI were retention of professional autonomy, fee for service reimbursement and adequate levels of reimbursement.

Conclusions: Most GPs in the Cape Peninsula were amenable to some form of NHI. However approval of NHI is to some extent conditional to details of

the NHI system, such as payment mechanisms, workload, income and effects on professional autonomy. The implications of GPs' preferences concerning the reimbursement mechanism for the feasibility of implementing a NHI in South Africa requires serious consideration by policy makers. While this research demonstrates broad ideological and conceptual support for some form of NHI or SHI, further research is required to provide more detailed quantitative information on the trade-offs that GPs would be prepared to make for them to support the introduction of a new socially based insurance system. A national survey of medical practitioners is recommended.

Keywords: National health insurance, Financing, Capitation, General Practice

2. ABBREVIATIONS

ANC	African National Congress
CHI SQ	Chi Squared statistical test
GP	General Practitioner
FFS	Fee for service
FGI	Focus group interviews
ILO	International Labour Organisation
NHI	National Health Insurance
OR	Odds Ratio
SA	South Africa
WHO	World Health Organisation

3. INTRODUCTION

National Health Insurance (NHI) is one of the most common forms of financing health care worldwide. At last count 87 countries had some form of national or social health insurance scheme (SHI), including many developed countries (much of Europe, Canada, Australia) and a considerable number of middle income and developing countries particularly in South America.[1,2,3] International proponents of NHI include the International Labour Organisation (ILO) and the World Bank.[1'4'5'6]

During the current process of political transition in South Africa debates have arisen about alternative systems of health financing and provision.[7,8,9,10] NHI represents one of the few feasible options available which could significantly change the public-private mix in the financing and delivery of health care in South Africa. The possibility of a NHI has been raised by many including the African National Congress[11,12] the previous government[13] and academics[1,14'15''16] The Minister of Health established a Committee of Inquiry into NHI.[17]

An important aspect of health system restructuring which is currently not well understood is whether stakeholders would accept the various systems proposed. Powerful lobby groups, including the medical profession, may influence the acceptability and workability of the various models. In Britain in the 1940s considerable resistance was expressed by doctors and the British Medical Association to the formation of the National Health Service. Many of the recommendations of the Gluckman Commission[18], which proposed a National Health Service for South Africa, were opposed by professional organizations. Changes in the structure of health systems in Zimbabwe and Mocambique have been associated with very high rates of emigration of doctors and medical graduates from these recently liberated countries.

NHI systems vary considerably between countries, and in designing a NHI system, there are many issues that need to be considered such as membership, contributions, benefit packages, administration and mechanisms of cost containment.[1,4] Reimbursement mechanisms are critical determinants of cost containment, sustainability, equity and acceptability of

NHI. Both fee-for-service and capitation have been used in many countries, the latter having been used in Holland, Italy and Britain[19,20] and in managed care systems. While all systems of reimbursement have particular advantages and disadvantages, capitation provides an incentive to health workers to provide care for more patients but to restrict the cost of managing each patient. These are important considerations in South Africa where 52-59% of doctors[8,21] and 61% of total health care expenditure[22] are in the private sector, but only 22,8% of the population are covered by some form of medical scheme, medical insurance policy or employer-provided health service.[22] Use of additional financing mechanisms such as SHI associated with financial incentives which lead to a more equitable distribution of health care professionals has the potential to contribute to improving the quality of care of the majority of the population in South Africa.

This study attempts to aid the overall assessment of the feasibility of introducing NHI by describing doctors' attitudes to NHI, and to capitation as a system of remuneration, and to explore determinants of these attitudes.

4. METHODOLOGY

The population consisted of all general practitioners (GPs) in private practice in the Cape Peninsula area during the study period (January - March 1994). A combination of quantitative and qualitative methods (triangulation) was used to improve the validity of the study.

The quantitative method consisted of a cross-sectional survey using telephone interviews. A sampling frame, consisting of 874 GPs, was compiled by combining a database from a private pharmaceutical company and the medical section of the Cape Town telephone directory. Sample size calculations (Statcalc. - Epi. Info.[23]) yielded a desirable sample size of 130. The desired sample size was calculated on the basis of a 95% confidence level, a level of precision of 8% above or below the population value and power of 80%. Systematic random sampling was used and yielded a sample of 174 GPs.

The questionnaire was developed on the basis of various behavioral models[24,25,26] which have been used to predict and explain behaviour and attitudes, a literature review of international studies of a similar nature[27,28,29,30] and the findings of the qualitative methodology. The telephone interviewer received specific training on the technical content of the study and on interviewing technique.

Two pilot studies were conducted. The one was administered to 182 fourth and fifth year medical students. The second pilot was a telephonic survey of ten general practitioners. The pilot studies assisted with refining and shortening the questionnaire, developing standard responses to interviewees questions and with training of the interviewer.

The qualitative method consisted of four focus group interviews (FGIs).[31,32] The groups chosen were an Independent Practitioners' Association in the Northern suburbs, a group sympathetic to the African National Congress, and two subgroups of the Academy of Family Practice. Each group consisted of approximately 10 GPs from a wide range of areas in the Cape Peninsula. Interviews were tape recorded and transcribed.

In the study NHI was defined as a system of financing health care on a large scale, which is based on insurance principles but which covers far larger groups of people than private medical schemes. This is achieved by making membership compulsory, contributions income related (usually proportional to income and deducted from the payroll), and by not using risk rating. Those covered are entitled to a defined package of benefits. In the study the terms NHI and social health insurance were used interchangeably, but it was made clear that a range of coverage options were possible.

Several additional measures were utilised to improve validity. Every GP to be interviewed was sent an introductory article on NHI[33], especially compiled for this study, because it emerged during the FGIs that GPs' understanding of the concept was incomplete. A number of GP stakeholder groups were consulted in the process of undertaking the study. The value laden nature of many terms required careful use of terminology and the maintenance of a non judgmental approach.

Informed consent was obtained from each respondent and confidentiality was maintained. Statistical analysis was done on SAS.[34] Multiple logistic regression was used to deal with the issue of confounding. Forward, backward and stepwise selection options were used, and the best fitting model chosen.

5. RESULTS

Of the sample, 22 were no longer in practice. 126 of the remaining GPs consented giving a response rate of 82,9%.

Characteristics of GPs

The majority (83%) of the sample were male and 17% female. The median age was 42,5 years (range 26-82 years). Their universities of graduation included Cape Town (50,8%), Stellenbosch (23%), Witwatersrand (6,3%) and Natal (4%).

The median number of patients seen per GP per day was 25 (range 2 to 70). The median coverage of patients by medical schemes was 80% (range 1 to 100%). The majority of GPs charged Representative Association of Medical Schemes (RAMS) Scale of Benefit rates (88,2%), with only 9,2% charging higher and 2,5% lower. Many (47,2%) had at some stage worked as a panel doctor for a sick fund or medical benefit scheme.

Attitudes to NHI

When asked how they would feel about the introduction of a system of NHI in South Africa, 63,4% (95% confidence interval 54,9% to 71,9%) said they approved or strongly approved, 14,7% disapproved or strongly disapproved and 22% were uncertain. Of those who disapproved or were uncertain, the majority said they would be in favour of NHI under certain conditions. The proportion of these that would be in favour of NHI if any person who wished to could take out additional private top-up insurance was 79,2%, if GPs were to maintain their independent status eg. own premises and working hours was 81,2%, and if payment was by fee-for-service was 89,6%.

The majority of GPs approved of the basic principles of NHI, namely that contributions be proportional to income (79,4% approved), that membership be compulsory for persons employed in the formal sector (77% approved), that individual risk rating (i.e. higher risk persons pay larger premiums) not be used (76% approved), and that there be a standard minimum benefit package (88,8% approved).

Many GPs (49,6%) would prefer a NHI to cover the entire population, whereas 45,6% would prefer a NHI to cover contributors (and their dependants) only. The majority (76,4%) would prefer NHI to be administered through one large scheme whereas 22,6% preferred multiple schemes.

Determinants of support for NHI

GPs were asked, by means of an open ended question, the reasons for their opinion on NHI. Their responses are shown in Table 1. They were then asked a series of closed ended questions about NHI. In response to these, GPs overwhelmingly (82,3%) said that NHI would lead to a more equitable system of health care in South Africa. The great majority (88,1%) approved of the likelihood that NHI would result in more patients being able to consult GPs, and 73% said that they had the capacity to treat more patients. 51,2% said that NHI was compatible with free enterprise principles, while 32,5% believed it was not compatible. GPs were less certain about the effect NHI would have on their income, with 21,3% believing it would increase and 18% that it would decrease (the remainder were uncertain or gave other responses). They were also uncertain about the effect of NHI on doctors' control over medical and professional decisions with 33,1% believing that this would decrease and 17,7% that it would increase.

Various beliefs were significantly associated with approval of NHI on bivariate analysis, and these are shown in Table 2. GPs who had read the article sent to them did not differ in their approval of NHI, from those who had not. After multivariate analysis (multiple logistic regression) the only variables that remained significant determinants of approval of NHI were the beliefs that it will lead to a more equitable system of health care (odds ratio (OR) = 11,2), and that NHI is compatible with free enterprise principles (OR = 12).

GPs were asked if there were any conditions which would be essential for them to support the introduction of NHI. Their responses are shown in Table 3.

Table 1: Reasons Given by GPs for Their Opinion about NHI

	Number	Percentage
More equitable and accessible	50	45.9%
Depends on how it works including reimbursement mechanism, fee, administration, benefit package	13	11.9%
Doesn't understand NHI well enough	9	8.3%
Current medical aid system not viable	5	4.6%
NHI may not be viable for South Africa	4	3.7%
System will be open to abuse	4	3.7%
Patient base will increase	3	2.8%
Support cross-subsidisation	3	2.8%
Opposed to cross subsidisation	3	2.8%
Relieve public health system and state hospitals	3	2.8%
Quality of care will decrease	3	2.8%
Prefer private fee-for-service	3	2.8%
Decrease choice for patient	3	2.8%
Concerns about physician autonomy (independence, choice)	3	2.8%

Table 2: Proportions of GPs supporting NHI, according to their beliefs about particular aspects of NHI, university of graduation and work experience*

Belief about NHI	Percentage in favour of NHI (N = 95)		Chi Sq	P	Relative Risk and 95% confidence interval#
Membership compulsory (approve, disapprove)	87.8%	59.1%	9.2	0.002	1.49 (1.04-2.13)
Contributions proportional to income (approve, disapprove)	87.7%	62.5%	5.9	0.015	1.4 (0.95 - 2.07)
GPs' income (increase, decrease)	91.3%	62.5%	4.8	0.028	1.46 (0.98 - 2.18)
Control over professional decisions (increase, decrease)	94.4%	55.6%	7.9	0.005	1.7 (1.19 - 2.43)
Compatible with free enterprise (yes, no)	94.1%	48.2%	21.9	<0.001	1.96 (1.31 - 2.91)
More equitable system of health care (yes, no)	90.1%	11.1%	34.6	<0.001	8.11 (1.28 - 51.59)
University of graduation (UCT, Stellenbosch)	87.0%	59.1%	6.7	0.01	1.47 (1.02 - 2.12)
Served as panel doctor (yes, no)	89.4%	72.9%	4.2	0.04	1.22 (1.01 - 1.5)

* The table should be read as follows: Of those who approved that membership be compulsory, 87.8% were in favour of NHI, whereas of those disapproved 59.1% were in favour of NHI. This difference is statistically significant.

\# The relative risk used is a prevalence ratio; 95% confidence interval is included

Table 3: Conditions for Support of NHI

	Number	Percent
GP must retain autonomy	25	24.8%
Fee-for-service reimbursement	16	15.8%
Reimbursement must be adequate	15	14.9%
Patients must remain choice or autonomy including choice of GP	12	11.9%
Mechanisms to stop abuse by patients and doctors	8	7.9%
Private practice and private top-up insurance should be allowed	8	7.9%
Quality of care should not drop	6	5.9%
Efficient administration	5	5.0%
Should be peer review and auditing	4	4.0%
All doctor should be allowed to see NHI patients	2	2.0%
	101	100%

Attitude to capitation as a mechanism of reimbursement

The majority (61,3%) of GPs disapproved of capitation as a method of reimbursement, with only 16,9% approving.

Of those who disapproved of capitation or were uncertain, a proportion would accept capitation under certain conditions: If total income was the same as is currently received, 27% would accept capitation (44,8% would not accept). Under some kind of private managed care option, 43,3% would accept capitation (41,3% would not). However 71,8% would accept payment by capitation from NHI if they could continue to receive payments on a fee-for-service basis from patients with private insurance or medical scheme cover.

GPs' beliefs about capitation are shown in Table 4. These show that the majority of GPs believed that capitation would lead to a decrease in quality of care (71%), incentive to work hard (73,4%) and personal freedom (68,8%) and an increase in patients presenting with minor ailments. On hypothesis testing, using the chi squared test, approval of capitation was statistically significantly associated with each of the first six beliefs listed in Table 4 ($p < 0.05$). Statistically significant associations between various beliefs and approval for capitation are shown in Table 5.

Focus group interviews

Themes that emerged in the focus group interviews were as follows. Most of the GPs were cautiously positive towards NHI seeing it as more equitable and accessible than the current system, and as likely to increase the patient base and thus the role of the independent practitioner. Key issues that emerged were the importance of maintaining professional autonomy (eg. involvement of physicians in choice of medications, investigations), adequate remuneration and quality of care. NHI was seen as a possible alternative to the current medical scheme system which was seen to be profit driven and excessively fragmented into over 200 schemes, and to managed care systems which were seen to be threatening doctors' autonomy. Additional private top-up insurance should remain available for those who wished to use it.

Table 4: General Practitioners' Beliefs about Capitation as a Reimbursement Mechanism*

Belief about Capitation	Increase	Decrease
Quality of care	4.8%	71.0%
Incentive to work hard	12.1%	73.4%
Working hours	38.2%	30.5%
Continuity of care	13.0%	52.0%
Clinical independence	6.5%	49.2%
Security of income	72.4%	12.2%
Total monthly income	7.5%	35.0%
Financial risks	21.0%	54.0%
Unnecessary minor ailments	85.6%	2.4%
Personal freedom	3.2%	68.8%

* Totals do not add up to 100% as other categories of response are not included

Table 5: Beliefs Significantly Associated with Attitude to Capitation

Belief about Capitation (Increase/Decrease)	Support for NHI*		Chi Sq	P
Quality of care	83.3%	14.5%	16.8	<0.001
Incentive to work hard	50.0%	13.0%	7.2	0.007
Continuity of care	57.1%	7.7%	18.1	<0.001
Clinical independence	60.0%	11.3%	8.3	0.004
Unnecessary minor ailments	17.3%	100.0%	12.3	0.001
Personal freedom	66.7%	15.0%	5.3	0.021
NHI is compatible with free – enterprise	30.6%	6.1%	7.2	0.007

* 83.3% of those who believed that capitation would increase quality of care were in favour of it, whereas only 14.5% who said it would decrease quality of care were in favour.

6. DISCUSSION

This study shows support by GPs in the Cape Peninsula for the establishment of a NHI. Should a NHI be established in South Africa top-up insurance would probably be allowed, and doctors would be likely to maintain their independent status. Thus approval of NHI was well above the 63,3% level. These results are not necessarily generalisable to the rest of South Africa, given the high density of doctors in the Cape Peninsula area (which is reflected in the relatively low median daily patient number), and that general practitioners' attitudes to NHI vary with university of graduation. They may also not be generalisable to specialists, given that NHI in South Africa might not cover private specialists and private hospital care.

Studies in other countries of the attitudes of physicians to NHI and other social issues[27,28,29,30,35,36] have described three broad axes of beliefs which were important determinants of these attitudes, namely political ideology, economic self-interest and professional autonomy. In this study, most of the beliefs which were significantly associated with GPs' attitudes to NHI, can be located within this framework.

Political ideology encompasses physicians' beliefs about issues concerning support of the well-being of the collective, the role of government in financing and administration of health care, competition and welfare. GPs, in this study, perceived NHI to be a more equitable system of health care than the present system, and this emerged as one of the most important predictors of support for NHI. However at the same time they were more likely to support it if they saw NHI as compatible with free enterprise principles.

Beliefs about economic self-interest relate to physicians' perceptions of their economic position. According to Normand, pressure for the introduction of NHI in many countries came from health care professionals' attempts to create higher levels of funding for health, as well a desire to improve their incomes.[4] In this study those who believed that NHI would increase GPs' incomes were significantly more likely to approve of it, and maintenance of income emerged as an important condition for GPs to support NHI in both the qualitative and quantitative studies.

Beliefs about professional ideology and autonomy relate to physicians' views of professional control over decisions, independence, power, rights and status. According to Globerman, Canadian physicians supported the introduction of NHI to ensure the hegemony of the profession and reinforce a medical monopoly.[30] In this study maintenance of professional autonomy was the most common condition set by GPs for them to support NHI, and those who saw NHI as likely to increase doctors' control over professional and medical decisions were more likely to support it.

A recent national study of private general practitioners also reported that many GPs were opposed to capitation.[37] While some of the concerns expressed about capitation may be valid, such as a potential decrease in quality of care, there are many misconceptions, for example beliefs that capitation will lead to decreases in clinical independence (autonomy) and continuity of care.

Only a minority of GPs mentioned benefits of capitation, such as it's potential for cost containment and equity effects. Controlling costs is a major problem of NHI systems worldwide.[1,4] Supply side strategies for cost containment are widely used, and Normand argues that the reimbursement method is singularly important in this regard.2 Ron concurs adding that "in developing countries where the level of contribution is an overriding consideration if the scheme is to achieve wide coverage, there is a strong case for avoiding fee-for-service reimbursement."[1] Rejection of capitation would necessitate other mechanisms of cost containment, and may substantially affect the type of NHI introduced. For example, a multiple schemes approach (similar to German model) would allow competition between schemes. The introduction of demand measures such as substantial user charges (in Korea cost sharing constitutes 51% of the fee[38]), would be likely to selectively deter poor beneficiaries from using care and thus undermine the whole purpose of the insurance scheme. Some authors have comment on emerging trends to combine reimbursement mechanisms to create a tailored pattern of incentives, with for example the major component of payment by means of capitation, and fee-for-service payments for services whose provision should be particularly encouraged, such as immunisation and certain other preventive services.[1,19,39]

The study shows that there is a gap between the support expressed for NHI on the one hand and the attitude to capitation as a mechanism of re-imbursement, which was disapproved by the majority of GPs, on the other. With respect to this, it is noteworthy that the questions and attitudes to NHI of which there was considerable measure of support referred largely to the ideological and conceptual elements and aspects of NHI. When specific issues such as remuneration and capitation were explored, then the generic support expressed in responses to the first part of the questionnaire began to diminish. Table 6 presents a selective summary of some of the attitudes of GPs to some of the components of NHI. The table is divided into two sections. The first summarises GPs' attitudes to a range of conceptual and theoretical issues pertaining to NHI, while the second covers issues that directly affect the GPs' interests. Results from the qualitative study and quantitative study, suggest the support that was expressed for NHI is cautious and provided that GPs' own financial and economic circumstances and professional autonomy were not significantly affected. One anonymous reviewer of this thesis went as far as saying that the "support...begins to evaporate as self interest and the economic survival of the GPs began to expose the rhetoric support for the NHI demonstrated in the first part". This raises important methodological and programmatic issues which have important implications for health policy as well as for the management and operational aspects of the NHI.

Table 6. GP support for broad conceptual issues concerning NHI vs. elements that will effect the physician directly

	Level of Support or approval
Broad conceptual issues	
Support for NHI	63,3% support
Contributions proportional to income	79,4% approved
Membership compulsory for formal sector employees	77% approved
Standard minimum benefit package	88,8% approved
NHI would be a more equitable and accessible system of health care	1) 82,3% agreed 2) This was by the far the most common reason for support of NHI in response to open ended questions.
Individual risk rating not be used	76% approved
NHI compatible with free enterprise principles	51,2% agreed
Issues that effect GPs interests	
Autonomy	1) Approval for NHI is subject to the condition of retention of physician autonomy by at least 24.8% of GPs. Retention of autonomy was the most common condition for acceptance of NHI. 2) Support for NHI rises to 81% if GPs maintain independent premises and working hours.
Reimbursement	1) FFS reimbursement and maintenance of income were amongst top three conditions for acceptance of NHI. 2) 61,3% disapprove of capitation 3) Capitation perceived to decrease incentive to work hard, quality of care and personal freedom and to increase unnecessary consultations for minor ailments. 4) 89,6% support NHI if payment by FFS.

Overall, this research suggests that GPs in the Cape Peninsula supported NHI as a more equitable system of health care, but one that is compatible with a free market system. However support for NHI appeared to be fairly strongly associated (through statistical tests of association, stated conditions for approval, and from the results of the focus group interviews) with beliefs that incursions into physician's autonomy should not be substantial and that GPs should not be expected to have any significant reductions in income. Given that NHI systems based on the Australian, Canadian or European models would be unaffordable in the South African context, substantive measures to control costs would need to be introduced. In general demand side measures, such as large co-payments are unlikely to be acceptable in

the South African context, given their potential effects on equity and accessibility to poorer persons. Rather a range of supply side interventions e.g. a range of managed care interventions, use of re-imbursement mechanisms other than fee-for-service etc. are likely to be strongly considered. This suggests that the introduction of NHI or SHI, with primary care benefits would need to be carefully negotiated with representative GP groupings, in order to minimise their perceptions of infringements of professional autonomy or of threats to income and other personal interests.

7. CONCLUSIONS AND RECOMMENDATIONS

The study provides evidence that most GPs in the Cape Peninsula would support the introduction of a NHI. This support is however likely to be cautious and conditional upon GPs' financial circumstances and professional autonomy not being significantly compromised.

The majority of GPs saw NHI as a more equitable system of health care operating within a free enterprise (social democratic) framework. While the majority of GPs were sympathetic to philosophical and ideological concepts of equity and access, this is, once again, provided that their own interests are not significantly affected.

The involvement of physicians in future policy development and planning for a SHI or NHI (professional autonomy) and recognition of their need for financial security would be consistent with their beliefs.

A significant proportion of General Practitioners are however opposed to capitation as a mechanism of reimbursement. Given the international experience of cost escalation associated with fee-for-service remuneration in NHI systems, further research on cost containment mechanisms (including the implications of reimbursement methods) will need to be considered if a potential South African NHI is to be a viable and sustainable option.

Given the difficulty in generalising these results to the rest of the country, a national study would be worthwhile.

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10 January 1993

Dear Doctor

Your opinion on a National Health Insurance system for South Africa

We intend to telephone you in the coming weeks to ask your views about the acceptability of a National Health Insurance system for South Africa. We enclose, for your interest, a short article on National Health Insurance which we have recently submitted for publication.

National Health Insurance is one of the most common forms of financing health care worldwide. At last count 87 countries had social insurance schemes including many developed countries (much of Europe, Australia, Canada) and a considerable number of middle income and developing countries particularly in South America.

National Health Insurance is increasingly being focussed upon as an option for financing health care in South Africa. The introduction of National Health Insurance would affect General Practitioners and other primary care providers intimately. We believe it is essential to get practitioners' views on these options.

We are currently doing a study in the Cape Peninsula to find out GPs opinions about the acceptability and feasability of National Health Insurance. We will be telephoning almost 200 GPs to ask their opinions and will also be interviewing groups of doctors from the Academy of Family Practice, Independent Practitioner Associations including CIPA, Dispensing Doctors Association, MASA and the African National Congress. The study has received funding from Health Systems Trust, the Medical Research Council and the University of Cape Town.

We intend to submit the results of this study for publication so this will be an opportunity for you to give your views on a system that could significantly affect your practice.

We greatly hope you will cooperate with this important study.

Yours sincerely

Signed

Dr. M. Blecher, Dr. M. Bachmann, Ms. D. McIntyre
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NATIONAL HEALTH INSURANCE - AN INTRODUCTION

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Summary
National Health Insurance (NHI) is a system of financing health care on a large scale. Membership tends to be required by law for everyone employed in the formal sector but contributions are usually income related in order to make them affordable to all employees. NHI is increasingly being considered as an option in South Africa. Potential advantages include increasing financial resources for health, improving access for workers to GP services and relieving the public sector so that it can expand primary health care in the most needy areas. Risks include inappropriately directing more resources into highly technical, specialized and hospital-based care.

Key words: National health insurance, financing

Introduction

As we rapidly move into a period of transition in South Africa various options for future systems of health care delivery are being debated. A major influence on the way health care is provided is the way in which it is financed. One financing mechanism which is increasingly coming under the spotlight is National Health Insurance (NHI, also called social health insurance), the possibility of which has been raised by many including the African National Congress[1], the current government[2] and academics.[3,4,5,6,7] Although NHI is one of the major options of health financing available for South Africa many practitioners are not familiar with the concept. This article attempts to introduce and summarize some of the key issues.

National Health Insurance is one of the most common forms of financing health care worldwide. At last count 87 countries had social insurance schemes including many developed countries (much of Europe, Australia, Canada) and a considerable number of middle income and developing countries particularly in South America.[8,9,10] Given the large differences between countries, social health insurance systems cannot simply be imported from abroad but must be individually designed for each country.

Before discussing National Health Insurance it is helpful to briefly examine the concept of insurance. The basis of insurance is the sharing of risk. For any individual the chance of significant ill health or injury at any one time

is low but cost of treatment of illness or injury can be prohibitively expensive. What we in South Africa call medical aid is in many countries considered a form of private health insurance which reimburses the cost of treatment should one fall ill.[11]

In a typical private health insurance system, membership is voluntary for individuals but may be compulsory for employees in employment related schemes. Contributions are usually independent of level of income. Individuals who are ill or at higher risk of illness are charged higher premiums (risk rating). A wide variety of packages of benefits may be offered. Recent legislative changes which abolished minimum benefits and have allowed risk rating[12,13,4,6] make our medical aids more typical of private insurance systems.

National Health Insurance is a system of financing health care in which countries use the insurance principle to cover large groups of people, especially everyone employed in the formal sector. The main features of NHI are described in the following paragraphs and typical differences between it and private insurance are summarized in Figure 1.

Figure 1. Differences between typical private and social insurance systems.

	PRIVATE INSURANCE	SOCIAL INSURANCE
MEMBERSHIP	VOLUNTARY	COMPULSORY IN FORMAL SECTOR
CONTRIBUTIONS	NOT RELATED TO INCOME	RELATED TO INCOME
RISK RATING	COMMONLY USED	NOT USED
BENEFITS	VARY BETWEEN SCHEMES	STANDARD PACKAGE
ADMINISTRATION	MULTIPLE SCHEMES	SINGLE OR MULTIPLE SCHEMES
COVERAGE OF SA POPULATION	20% COVERED IN 1991	POTENTIALLY 40-50%

Compulsory membership

Membership is usually required by law for all those working in the formal sector. This is so that risks are pooled over large populations. Healthier individuals subsidise the costs of individuals whose higher health risks would make their premiums unaffordable. This allows a greater proportion of the population to be covered than under an entirely voluntary system.

Contributions

Contributions usually vary according to income so that those receiving lower incomes pay less. Contributions are often less progressive than income tax (in which higher wage earners pay a higher percentage of their income) and are

frequently proportional, for example each employee might contribute 6% of his income. Contributions are usually deducted from the payroll with both employer and employee contributing.

Benefits

All contributors are entitled to a standard package of benefits which typically include curative services. Given the current support for primary health care by virtually all parties in South Africa, the package of benefits paid for by social insurance would almost certainly cover comprehensive primary level care services. The role of the GP is thus likely to be central to the operation of social insurance in South Africa. GPs would be likely to play a "gatekeeping" role to higher levels of care.

Coverage

Social insurance systems usually start by covering a few of the largest employment sectors (eg. government employees, large industries). In a country like Egypt, for example, social insurance only covers about 10% of the population. They then gradually expand to cover the rest of the formal sector and employees' dependants. What might this mean in South Africa? Currently 20,1% of South Africans have medical aid cover.[14,5] However about 40%-50% of adults are employed in the formal sector[15] and are thus potential contributors to a social insurance scheme.

In many countries coverage has further expanded (over years to decades) to include other groups such as those employed in the informal sector and the agricultural sector. In some countries such as Western European countries and South Korea 100% of the population is covered. In South Africa the idea has been raised of combining social insurance contributions with tax revenue to form a single health financing system.[3,16] This would represent an immediate jump to 100% coverage with general tax revenue subsidising those who are unemployed and unable to make contributions. While considerations of equity make these proposals attractive, the extent of cross-subsidization that they would involve make them far less likely to be acceptable in the current political and economic climate than a social insurance system which covers contributors only.

Administration

Who administers the NHI? There are many possible variations from independent bodies to government bodies (such as Ministry of Health or Labour) to private administrators. In some countries (such as Australia) there is one single large national scheme whereas in others (such as Germany) there are multiple schemes. In South Africa the administrative infrastructure of the medical aid schemes might well be compatible with the multiple scheme approach. Where there are multiple schemes funds may be pooled centrally and

distributed to each scheme to compensate for the different risk profiles and contribution levels of their members (as is the case in Germany). Larger schemes permit more risk pooling, cross subsidisation and administrative efficiency.[17]

Provision of services and mechanisms of reimbursement

Two main patterns of provision of services are described. In the direct pattern of provision the insurance owns facilities such as clinics and hospitals and employs its own staff. In the indirect pattern the insurance contracts with independent practitioners (such as GPs with their own premises) to provide services. Over the last decade there has been a move towards the indirect method of provision.

Practitioners may be paid on a fee for service basis (Australia, Germany), a capitation basis (United Kingdom, Netherlands) or a salary basis (Israel, Sweden) or combinations of these. Mechanisms for reimbursing hospitals include a set fee for each day of stay (per diem), payment according to diagnosis (such as Diagnosis Related Groups), giving hospitals yearly operating budgets (global budgeting) or fee for service.[17] Different mechanisms of payment have been shown to have a substantial impact on patterns of patient care.[17,18]

Legislation

Legislation would be likely to specify a package of benefits which every contributor is entitled to receive (to ensure that essential services are covered) and a schedule of contributions that would vary with income. Charging higher premiums on the basis of risk (risk rating) would not be allowed. Voluntary private insurance for additional benefits (top up insurance) is usually allowed.

Reasons to introduce social health insurance

There are many reasons to introduce a system of social health insurance in South Africa. These include:

1) NHI is a sustainable and effective way to increase financial resources into the health sector.[19,20] The potential for expanding health services through increased government finance is limited in many developing countries.[21] Health insurance contributions are usually more willingly paid than increased taxes. By making contributions compulsory over a large part of the population a significant level of resources can be generated.

2) NHI could increase the proportion of South Africans with access to skilled practitioners currently in the private sector. In South Africa 50%-62% of non-specialist doctors, 60%-66% of specialists, 80%-93% of dentists and 89%-92% of pharmacists practice within the private sector.[5,22,23] GPs would be in a position to treat on a more regular basis patients who can at present only infrequently afford "out of pocket" payments for their care.

3) The establishment of a NHI should decrease the load on public facilities so that the public sector can concentrate on the most needy areas, important public health interventions and making primary health care accessible to all.
4) A social health insurance provides for a certain amount of "solidarity" and cross-subsidization to redress the social inequalities of apartheid.
5) Social insurance provides a feasible way of meeting the demands of organized labour whose members are demanding health insurance cover and better health care. NHI could improve care of a substantial part of the population currently not insured especially workers and their families.
6) NHI may provide opportunities to direct health expenditure to more efficient forms of care including primary health care.

Risks of social insurance

There are several well recognized potential disadvantages which must be considered and addressed.
1) Social health insurance, if benefits are for contributors only, does not do away with a two tiered health service. This may be socially divisive.
2) The social insurance system may drain valuable staff away from the public sector, as increased funding creates additional demand for care.
3) Social health insurance systems tend to lead to the growth of hi-tech expensive curative medicine in urban areas, particularly if schemes are poorly controlled.
4) Prevention, primary health care and rural services have been neglected in several countries with social insurance systems.

Conclusions

Medical aid scheme insolvency, escalating costs and premiums, exclusion of elderly and ill persons from schemes, and increasing demands from organized labour for health insurance cover, are likely to lead to pressure on the government for reorganization of the private health insurance market. Compulsory social insurance is the mechanism most widely used in other countries to respond to some of these issues. South Africa's high unemployment rate means that restriction to the formally employed and their families is most feasible in the short term. Social health insurance would pose opportunities and risks to health professionals and the public. However there are opportunities to improve equity and efficiency of health care, with emphasis on primary care provided by GPs.

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QUESTIONNAIRE

INTRODUCTION:
Hullo. I am ..... from the Health Economics Unit in the Dept. of Community Health (Medical School). I am phoning on behalf of Dr. Blecher and Dr. Bachmann who recently sent you a copy of a short article on National Health Insurance. Did you receive it?

We are doing a preliminary study to find out GPs views about National Health Insurance. National Health Insurance is currently being considered in national health policy debates as an option for financing health care in South Africa. We believe that it is important that the opinions of GPs be considered.

Would it be OK for me to ask you some questions? Y / N
Is now a convenient time or should I call back at another time?.....

Everything you say will be kept confidential and anonymous, so please feel free to express whatever your views are. Also feel free to disagree with anything in the article, since it inevitably expresses the perceptions of it's authors.

Have you had a chance to read the article we sent yet?
(If no: Should I go ahead anyway or would you prefer if I phone you back.)

Interviewer:
GP code number:
Area:
Sex:
Read article: Y / N

A) BASIC DATA

I would like to begin by asking a few basic details:

1) Which University did you graduate from?....

2) What is your date of birth?.....

3) What is the average number of patients you see per day?....

4) About what percentage of your patients are covered by medical aid?....

5) Do you usually charge medical aid rates or somewhat higher or lower? Med aid / Higher / Lower

6) Have you ever served as a panel doctor for any sick funds or medical benefit schemes?... Y / N / Other

B) NATIONAL HEALTH INSURANCE

I would now like to come onto the topic of National Health Insurance.

1) Many doctors are not familiar with the concept of NHI and the term means different things to different people. What do you understand by the term National Health Insurance?

Contribution based Tax based
Benefits for working only Benefits for all
Doctor paid fee-for-service / capitation / salary
Government controlled

2) How would you feel about the introduction of a system of NHI in South Africa? Would you

1. Strongly approve
2. Approve
3. Undecided
4. Disapprove or .
5. Strongly disapprove

3) Why do you feel the way you do about NHI?

4) Do you approve or disapprove of the following features of NHI?

a) Persons at higher risk for illness (eg. older, hypertensive) would pay the same as those at lower risk .
A D Neutral(U) Other..

b) Membership would be compulsory for everyone employed in the formal sector.
A D U Other..

c) If contributions were proportional to income, persons earning lower wages would pay less than higher wage earners.
A D U Other..

d) All contributers would be entitled to the same minimum package of benefits.
A D U Other..

e) NHI would result in more people being able to consult GPs.
A D U Other..

f) Do you feel you have the capacity to treat more patients.
Y N Uncertain Other..

g) In your opinion what would be the effect of NHI on the average income of GPs. Would it increase, decrease or stay the same?
I D Same Other..

h) (In your opinion) what would be the effect of NIS on doctors' control over medical and professional decisions. Would it increase, decrease or stay the same?
I D Same Other..

i) Do you think NHI is or is not compatible with free enterprise principles?
Y N U Other..

j) Would NHI lead to a more equitable system of health care in South Africa? Y N U Other..

Conditions for acceptance of NHI

(If no or uncertain to NHI above)

5a) If any person who wished to could take out additional top-up insurance, would you then be in favour of NHI ?

Y N U Other.....

5b) If GPs maintained their independent status eg own premises, working hours, would you then be in favour of a NHI?

Y N U

5c) If payment was by fee-for-service, would you be in favour of introduction of an NHI?

Y N U Other...

6) Are their any (other) conditions which would be essential for you to support the introduction of a NHI?

7) Would you prefer a NHI to provide benefits for only those who pay contributions or for everyone in the country?

Contrib / everyone / other....

8) Would you prefer a NHI to be administered through one large national scheme or through multiple schemes?

C) CAPITATION

Doctors are reimbursed in a variety of ways by NHIs in different countries. They may be paid on a fee-for-service basis, by salary or by capitation. With capitation the doctor receives an amount for each patient on his/her practice list per year. For example if one had 2000 patients and the capitation rate was R100 per person, one would get R200 000 per year. Various combinations are possible. For example in Britain GPs are paid predominantly by capitation but receive fee-for-service payments for preventitive practices such as PAP smears.

1) I would like to focus particularly on capitation as a means of reimbursement. How would you feel about being paid by a capitation system if a NIS were to be introduced.
Would you:

1. Strongly approve
2. Approve
3. Undecided
4. Disapprove or
5. Strongly disapprove

2) Why do you feel the way you do about being paid by capitation?

3) Would payment by capitation as opposed to fee-for-service increase or decrease the following?

a) Quality of care provided by GPs
I D same other...

b) Incentive for GP to work hard
I D same other..

c) Working hours of GPs
I D same other..

d) Continuity in doctor-patient relationship
I D same other..

e) Clinical independence of GP
I D same other..

f) Security of income for GP
I D same other..

g) Total monthly income received by GP
I D same other..

h) Financial risk assumed by GP
I D same other..

i) Patients coming for unnecessary minor ailments
I D same other..

j) Personal freedom of doctor
I D same other..

Conditions
(If no or undecided to capitation above)
4a) Would you accept capitation as a mechanism of payment if at the end of the day you were to receive the same amount as you currently receive from fee-for-service payments,?
Y N U Other..

4b) Would you accept payment by capitation if pre-payments to the GP were made directly at the beginning of each year?
Y N U Other....

4c) Would you accept payment by capitation from NHI if you could in addition receive payments on a fee-for-service basis from patients with private medical insurance or medical aid?
Y N U other..

4d) Would you accept payment by capitation fee under some kind of private managed care option (eg HMO)?
Y N U Other..

Thats all I wanted to ask.
5) Are there any final points you wanted to make?

Thank you very much for giving your views.

THESIS PROTOCOL: SHORTENED VERSION

ACCEPTABILITY TO GENERAL PRACTITIONERS OF A NATIONAL HEALTH INSURANCE SYSTEM WITH CAPITATION AS A REIMBURSEMENT MECHANISM

PROBLEM

During the current process of political transition in South Africa considerable debates have arisen about future optimal systems of health financing and provision.[1,2,3,4] Some of these issues are briefly summarised. There is a strong thrust towards increasing equity in health care in South Africa as well as in many countries throughout the world. In many countries this has led to the establishment of systems of National Health Insurance or National Health Systems such as in Britain.

National Health Insurance is used in many developed countries (Canada, Australia, much of Europe) and a considerable number of middle income countries particularly in South America. The possibility of a National Health Insurance for South Africa has been raised by many including the African National Congress[5], the current government[6] and academics[7,8,2,9].

Capitation has been used as a mechanism for reimbursing providers in many countries including Britain and Holland.[10,11] While all systems of reimbursement have particular advantages and disadvantages, capitation provides an incentive to providers to see more patients, an important consideration in the public-private mix in South Africa where more than 50% of doctors (but only 20% of insured persons) are in the private sector.[2,12]

Private medical aids and insurers in South Africa in the face of spiralling costs are in the process of restructuring[13] particularly since the passing of the Medical Schemes Amendment Act. Some of these systems of managed health care including Health Maintenance Organizations could substantially change the operation of what is currently the private sector including the mechanisms of reimbursing providers.

An important aspect of health system restructuring which is currently not well understood is the willingness or likelihood of the various role players to accept the various systems. Powerful lobby groups exist which may effect the acceptability and workability of the various models. In Britain in the 1940s considerable resistance was expressed by doctors and the British Medical Association to the formation of the NHS. Many of the recommendations of the Gluckman Commission were opposed by provider organizations. Changes in the structure of health systems in Zimbabwe and Mocambique have been associated with very high rates of emigration of doctors and medical graduates from these recently liberated countries.

Very little is known about the acceptability of national health insurance and capitation to providers in South Africa despite the fact that NHI represents one of the only options available to a future government if it is to significantly change the public-private mix in the delivery of health care. A recent national study of private general practitioners has provided useful information.[14] However only a small number of closed ended questions were asked and the beliefs underlying the attitudes expressed warrant further investigation. The study recommended further research to "understand the meaning of the attitudes expressed by respondents".

A detailed literature review (15 pages) is available from the authors.

PURPOSE
The purpose of this study is to facilitate the process of restructuring our system of health care delivery and financing, and the negotiations which will accompany these changes, by testing the acceptability of NHI and capitation to General Practitioners.

AIM
This study aims to describe doctors' attitudes to National Health Insurance and capitation as a system of remuneration and to explore determinants of these attitudes.

OBJECTIVES
1) To determine General Practitioners' acceptance of National Health Insurance as a system of health care financing.
2) To test their acceptance of capitation as a method of reimbursement.
3) To explore conditions which providers believe are essential for NHI and capitation to be acceptable. (eg. maintenance of income, preservation of independence).
4) To explore various beliefs which underlie these attitudes eg. professional autonomy, incentives, risk, working conditions, beliefs about equity.
5) To determine the effect of other variables on their views such as previous work experience, geographic area of practice and demographic characteristics.

METHODOLOGY

Population:
The population will consist of all general practitioners in private practice in the Cape Peninsula area during the study period.

Inclusion criteria:
All primary care doctors practicing in the private sector will be included. Doctors working only part-time in the private sector will be included.

Exclusion criteria:
Specialists, full-time public sector employees and other categories of health worker will be excluded.

Sampling

Sampling frame: A sampling frame has been be compiled by combining a database from a large private pharmaceutical company (Warner Lambert) and the medical section of the Cape Town telephone directory. Sampling frame consists of 874 GPs.

Sampling method: Systematic sampling was used. Sampling interval was determined by size of population and sample size required. Sampling interval of 1 in 5 yielded a sample of 174 GPs.

Sample size:
Sample size calculations (Statcalc - Epi. Info[15]) yielded a desirable sample size of 130.

Measurements
Two methods, one predominantly quantitative and the other qualitative will be used. These are:

1) **Telephone interviews** using a structured questionnaire.

The questionnaire was developed on the basis of:
a) Various behavioral models[16,17,18] which have been used to predict and explain behaviour and attitudes. Fischbein and Ajzen's Theory of Reasoned Action is one such model which has been very widely used and whose constructs include attitudes, beliefs (personal and normative), intentions and behaviour.
b) A number of international studies of a similar nature.[19,20,21]
c) The qualitative methodology
d) The pilot studies.

2) **Focus group interviews** (FGIs). These will be conducted before and after the questionnaire in order to inform its development and help interpret its findings. The focus group technique involves qualitative methods which are useful to gain a greater depth of understanding of subjective issues.

Sampling methodology for FGIs will involve identifying and selecting different strata of GPs so that a wide spectrum of opinions may be tested. Groups of doctors to be included are members of Academy of Family Practice, Dispensing Doctors Association, MASA, ANC, doctors working in townships, doctors working in rural areas and graduates of traditionally Afrikaans-speaking universities.

Reliability
For the quantitative method a 10% repeat sample will be taken and interviewed again to test for reliability.

Validity
Methods used to improve validity will include:

- A combination of quantitative and qualitative methods will be used to improve validity. Results from the focus group interviews should help in refinement of the questionnaire.
- Use of telephone interview as main methodology to deal with the generally poor understanding of NHI found during the qualitative methodology.
- Every GP to be interviewed was sent a introductory letter and article on National Health Insurance, especially compiled for the purpose of the study (and subsequently published in SA Family Practice - see appendix). The article explained NHI with a balanced discussion of possible advantages and disadvantages. GPs will be asked whether they had read the article so that a comparison could be made between GPs who had read and those who had not read the article.
- The questionnaire was piloted.
- Key **stakeholders** including the Academy of Family Practice, the Dispensing Doctors Association and the Medical Association (MASA) were involved in the process of doing the study.
- Maintaining non judgmental neutral approach while interviewing.
- Care to be taken with the use of a wide variety of terms because of incomplete understanding by GP's and value laden nature of many terms (eg NHS).

The external validity or generalizability of the study depends on several factors. Because large differences may be expected between GPs in the metropolitan and rural areas, it would be preferable to extend the study population nationally. This will depend on the availability of research funds.

PILOT STUDIES
A pilot focus group interview was conducted.
A pilot study of the questionnaire was done.

STATISTICAL ANALYSIS
Sample size is discussed above in sampling section.
Analysis will be done on SAS and Epi-Info. Univariate, bivariate and multivariate analysis will be done. Details of statistical procedures to be performed are available on the full protocol.
Multivariate analysis will be important to assess determinants of particular outcomes (eg. attitude to capitation) and to deal with confounding variables. Multiple logistic regression will be used.

Focus group interviews will be recorded and transcribed. Interview data (transcripts) will be analysed for thematic content by independent observers using accepted techniques.[22,23]

ETHICS
Previous sections of the protocol have argued that there is currently a need for this research as our society and health care system enter a process of political transition.

Informed consent will be sought from each individual to be interviewed. Confidentiality will be maintained and this will be explained to each respondent. Details that could identify specific respondents will be withheld from publication. Care will be taken not to interrupt consultations or otherwise unnecessarily disturb practitioners and patients.

It is intended that results will be disseminated by publication.

Consideration will be given to supplying (to those respondents who request it) a small package of educational material after completion of the study.

The protocol will be submitted to the Ethics Committee of the UCT Medical School for approval.

BUDGET
3 possible budgets are presented depending on size of study
and the amount of funding that may be granted:

1) Basic study - Cape Peninsula area
2) Extend to whole of Western Cape Region (Region A)
3) Extend to include national postal questionnaire:

	(1)	(2)	(3)
Telephone	R1000	R3000	R3000
Printing and stationary	R1000	R1500	R3000
Transport	R1000	R3000	R3000
Transcribing of audiotapes	R2000	R2000	R2000
Publication and conference presentations	R2000	R2000	R2000
Employment- 1 person part-time for 4 months			R6000
Total	R7000	R11500	R19000

A major cost, namely the authors time, is not included as the research will form part of the activities of the Health Economics Unit.

TIMING

Protocol complete	Nov 1993
Questionnaire complete	Dec 1993
Pilot	Dec 1993
Data Collection	Jan - March 1994
Analysis	April - July 1994
Write - up	Aug - Dec 1994

POLICY IMPLICATIONS

The ANC has called for a Commission of Enquiry into the establishment of a system of NHI to be established in 1994. Doctors are a major stakeholder in the whole issue of NHI and this research will provide data not previously known on the topic and hopefully aid the overall assesment of feasability of introducing NHI. The issue of the reimbursement mechanism is critical to the financial sustainability and acceptability of NHI and strong opinions on these issues are likely to substantially affect the type of NHI introduced (eg. rejection of capitation may favour introduction of a NHI with multiple schemes - similar to German model).

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